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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/621,190

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Gustaaf Persoons

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EXAMINER

THAKUR, VIREN A

ART UNIT

PAPER NUMBER

1761

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/621,190

Applicant(s)

PERSOONS, GUSTAAF

Examiner

Viren Thakur

Art Unit

1761

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-11 and 13-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-11 and 13-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendments

1. The rejection of claims 1-9 and 12 under 35 U.S.C. 112, second paragraph has been withdrawn.
2. The rejection of claims 10, 15 and 16 under 35 U.S.C. 102(b) as being anticipated by Ringdahl et al. (US 5958486) has been withdrawn.
3. The Examiner notes that although the current amendment to instant claim 10 is not stated as recited in the specification, the newly added phrase to instant claim 10, "is less than," is not new matter because the phrase "positive pressure" within the disclosure is considered to also mean that the pressure in the vessel is less than the pressure within the paperboard container.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
5. Claims 1-5 and 7-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject

matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Amended claim 1 recites the limitation wherein during cooling at least a portion of the pressure schedule has a control pressure less than the theoretical pressure resulting from the temperature schedule. It is not clear as to how the control pressure within the vessel can be less than the theoretical pressure. At any point when the control pressure is reduced within the vessel the theoretical pressure, as the sum of the vapor pressure and the air pressure, will inherently also change. Thus, although the actual control pressure could be lowered below the theoretical value, the theoretical pressure at that instant when the control pressure is reduced would also be adjusted so that the theoretical and control pressure would still be equal. From the specification, it is not unclear as to how the control pressure could be less than the theoretical pressure, since at the instant when the actual pressure is reduced the theoretical pressure would also change.

6. Claims 10-11 and 13-15 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for minimizing the difference between the pressure in the vessel and the pressure in the paperboard material, thereby aiding to prevent moisture from entering into the paperboard of the container, does not reasonably provide enablement for wherein during at least a portion of the cooling phase, controlling the pressure within the vessel so that the

pressure in the vessel *is less than* the pressure in the paperboard material. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. Prior to amendment, the claims recited wherein the pressure between the vessel and the paperboard container was minimized and subsequently wherein during minimization, (as recited in now cancelled claim 12) the pressure within the vessel is less than the pressure in the paperboard material. Adequate support for this limitation is disclosed on page 6, line 14 to page 7, line 5. However, the metes and bounds of the currently amended claim, reciting the pressure in the vessel being less than the pressure in the paperboard material reads on the vessel pressure being *any* pressure less than the pressure in the paperboard material, regardless of the difference between the two. As an example, the pressure of the vessel could be significantly less than the pressure within the container such that the container would burst. Adequate support for this limitation has not been provided in Applicant's specification commensurate in scope with the instant claims.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 1 is rejected under 35 U.S.C. 112, second paragraph. Claim 1 recites the limitation "the theoretical pressure." There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-2, 4-5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Lagerstedt (US 6,177,048 B1) for the reasons set forth in the previous Office Action, and in light of the rejection above under 112, first paragraph. Regarding instant claim 2, during the cooling phase, Lagerstedt discloses supplying a gas to the vessel that reduces the temperature within the vessel. As a result of the reduction in temperature within the vessel, the pressure within the vessel would have inherently also been lowered. If the pressure is inherently reduced as a result of the concurrent reduction in temperature, then the cooling phase inherently contains a pressure schedule as a result of temperature. Thus, at least a portion of the pressure schedule would follow the theoretical reduction in pressure resulting from the temperature schedule, as recited in instant claim 5.

Regarding instant claim 7, simply by cooling, the control pressure in the vessel is reduced in a ramped manner. For examination purposes it has been interpreted that any reduction in pressure can be considered a ramped manner.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims 1, 2, 4-5, 7-11, 13 and 15-21 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Dodrill (US 5,283,033) in view of Lagerstedt (US 6,177,048 B1). The reference and rejection are taken as cited in the previous Office Action, mailed September 6, 2006. Applicant's arguments have been fully

considered but are not persuasive. Applicants assert that neither Dodrill or Lagerstedt teach wherein at least a portion of the pressure schedule having a control pressure less than the theoretical pressure resulting from the temperature schedule. Applicant further asserts that Dodrill teaches maintaining the current pressure inside the processing vessel at a value *substantially equal to the current sum of the two pressure components within the container, wherein "substantially equal" pressure is considered to have been achieved when the two pressures are maintained near enough together to prevent the container from irreversibly collapsing or expanding.* Based on this teaching, the Examiner asserts that the pressure components are **substantially equal**, thus one having ordinary skill in the art would have understood this to mean that the pressure within the vessel and the container are not necessarily equal. This is further supported by the fact that the pressure is considered substantially equal so as to prevent *irreversible* collapse. Therefore, one having ordinary skill in the art would have recognized that there could have been a variation in the pressure differential between the vessel and the container provided that this pressure differential does not result in permanent damage to the container.

Dodrill teach wherein a margin of error would have been maintained so as to avoid deformation of the package (Column 12, Lines 54-59). Thus, depending on the type, size and thickness of the package, one having ordinary skill in the art would have recognized that there would have been a difference between the calculated pressure and the actual pressure maintained within the vessel.

Furthermore, on column 12, lines 64-67, Dodrill teach wherein depending on the type of containers, there is a tendency for the trays to indent or shrink. To prevent this type of "collapse," Dodrill further teaches wherein the pressure within the vessel should be reduced so as to maintain a greater pressure within the container as compared with the vessel (Column 12, Lines 64-67). Thus, Dodrill teach a pressure of the vessel below an expected calculated pressure and irrespective of temperature. By adjusting the pressure to prevent this collapse, Dodrill would have been actively controlling the pressure in the vessel to a value less than the pressure in the container. In addition, Dodrill provides further evidence of applying pressure irrespective of the temperature within the vessel, on column 17, lines 36-42. In this embodiment, the pressure is determined as a function of time as opposed to temperature. Thus Dodrill further teaches a second embodiment where the pressure does not rely on theoretical calculations and temperature dependencies.

The Examiner further notes that the limitations of instant claims 1, 10 and 16 allow for the pressure within the vessel to be less than the pressure within the container *at any point* during cooling and for any time interval (based on the affirmed interpretation that "at least a portion" could mean any portion). Dodrill discloses this lower pressure for any instance during cooling for the reasons discussed above. Furthermore, Dodrill teaches wherein the type of food product contained within the vessel affects how the pressure is maintained between the vessel and the container. On column 19, lines 21-38, Dodrill discloses that the

water activity of the food further dictates the vapor pressure within the container during sterilization. Thus, lower water activity would result in a lower than expected vapor pressure. One having ordinary skill in the art would have recognized that this would result in the package collapsing inwardly. Given these teachings in combination with the adjustments previously discussed by Dodrill (above) to prevent irreversible collapse or busting, it would have been obvious that the vessel pressure would have to be lowered, irrespective of any theoretical calculations, in order to compensate for the lower pressure within the container, and prevent the container from collapsing.

In addition, since Dodrill strives to maintain a "substantially equal" pressure within the container, it would have further been obvious to one having ordinary skill in the art that this equalization was based on adjustments made within the pressure vessel to accommodate for lower water activity and the type of container that is being sterilized. As taught by Dodrill, the type of container used and the water activity of the food product, and the control means for maintaining pressure, dictate the marginal error in the pressure across the vessel and the container. Thus, it would have been obvious to one having ordinary skill in the art that fluctuations would have occurred during the sterilization cycle. Consequently, a fluctuation during the sterilization process provides motivation that at some point during the cooling and for any period of time during cooling, the pressure within the vessel would have been less than the pressure within the container. Additionally this pressure in the vessel would have been less than that

which would have been calculated, as a means for accounting for lower water activity and the type of container being sterilized, so as to prevent irreversible collapse of the container.

The theory behind the collapse or expansion of a container during sterilization would have been well known by one having ordinary skill in the art: a positive pressure differential within the container would have caused the container to expand; while a negative pressure differential within the container would have caused the container to collapse. These pressure differentials also would have prevented the passage of air or moisture into the container. To one having ordinary skill in the art, this theory of preventing the entrance of a material is fundamental to pressure differentials. Thus, regardless of whether Dodrill explicitly discloses preventing the ingress of water, during cooling by maintaining a positive pressure within the container as compared to the pressure in the vessel water would naturally have been prevented from entering the container, since this is natural phenomenon of pressure gradients. In addition, during cooling of a sterilized container, it has been well known that the reduction of pressure requires control so as to prevent the permanent collapse. In light of this, it would have been obvious to one having ordinary skill in the art to prevent the collapse of the container, or to prevent the passage of moisture or any material into the container for the purpose of maintaining a sterile environment and to prevent damage to the container – regardless of the type of container. Therefore, for the reasons discussed above and given the teachings of one

having ordinary skill in the art, to maintain a positive pressure within the container that does not follow a particular schedule would have been obvious to one having ordinary skill in the art.

14. Claims 3 and 14 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Dodrill (US 5,28,033) as applied to claims 1, 2, 4-8, 10-13 and 6-21 above, and further in view of McHenry et al. (US 4,667,454), for the reasons cited in the prior Office Action, and in light of the discussion above.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5597599 discloses preserving a food product in a container, wherein there is a positive pressure difference between the container and the atmosphere. US 4816269 discloses monitoring the pressure within a pasteurization vessel and the pressure within the container to be pasteurized. The apparatus strives to maintain equal pressure, positive pressure or negative pressure with respect to the container.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viren Thakur whose telephone number is

(571)-272-6694. The examiner can normally be reached on Monday through Friday from 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571)272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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